

REMARKS

Upon entry the present amendment, claims 1, 4, 6-14 and 20 will have been amended. Claim 5 have been canceled without prejudice or disclaimer.

In view of the herein contained amendment and remarks, Applicant respectfully requests reconsideration and withdrawal of each of the outstanding rejections together with an indication of the allowability of all the claims pending in the present application, in due course. Such action is respectfully requested and is now believed to be appropriate and proper.

Applicant wishes to respectfully thank the Examiner for his acknowledgement of the claim for foreign priority under 35 U.S.C. 119 and for confirming receipt of the certified copy of the foreign priority document upon which the claim for priority is based.

Additionally, Applicant respectfully thanks the Examiner for confirming consideration of the Information Disclosure Statement filed in the present application on February 2, 2006.

Turning to the outstanding official action, the Examiner rejected claim 20 under 35 U.S.C. 101, asserting that the claimed invention is directed to non-statutory subject matter. By the present response, Applicant has re-written claim 20 to recite a computer readable medium that stores a program for having a computer perform authentication. Accordingly, it is respectfully submitted that claim 20 now clearly does constitute statutory subject matter. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 20 under 35 U.S.C. 101.

In the outstanding Official Action, the Examiner rejected claims 1-20 under 35 U.S.C. 112, second paragraph as being indefinite. The Examiner asserted that the claims fail to particularly point out and distinctly claim the subject matter which Applicant

regards as the invention. Applicant respectfully traverses the above rejection and submits that it is inappropriate, particularly when considered with respect to the features of the amended claims.

In particular, regarding claims 1, 7, 8 and 20 the Examiner asserted that the term from "outside" the second device is unclear. Applicant traverses this assertion. In the context of the present invention, it is clear that, as part of the authentication process, certain information is not stored in the device but is obtain from "outside" the device.

Nevertheless, by the present response Applicant has changed the term "outside" to "externally". Applicant submits that the meaning of this term is clear and unambiguous. Further, explanation of what is meant by this term is found throughout the specification, including at page 8, line 9. Further details of the third authentication information is set forth in claim 6. Additionally, by the present response, Applicant has defined the third authentication information as comprising user identification information.

Accordingly, while Applicant submits that claims 1, 7, 8 and 20 as submitted were not indefinite with regard to the term "outside", it is respectfully submitted that as herein amended, each of these claims is even more clear definite and accurate in its description of Applicant's invention.

The Examiner further rejected claims 1, 7, 8 and 20 as being incomplete. The Examiner asserted that the omitted essential elements relate to how the authentication information generator generates the fourth authentication information from the second and third authentication information. Applicant respectfully traverses this rejection and submits that it is inappropriate.

In this regard, Applicant respectfully notes that the present invention is directed towards generating the fourth authentication information such that it is unique, by utilizing second and third authentication information. However, how the fourth

authentication information is generated is a simple matter of design and is not a material part of the present invention. Accordingly, the absence of disclosure regarding this feature will provide no difficulty to one ordinary skilled in the art in making and performing the features of the present invention. Accordingly disclosure regarding "how" the generator generates the authentication information is not necessary.

In a generally similar manner, the present application refers to encryption. However, the manner in which data is encrypted is also not part of the present invention. As one of ordinary skill in the art understands, there are numerous encryption mechanisms available. Thus, the Examiner does not require, and Applicant has not provided details as to a particular encryption mechanism. Similarly, there are many ways to generate authentication information based on other information and the particular generation method utilized is of relatively no consequence, and is furthermore not a significant part of the present invention. Accordingly, Applicant respectfully traverses the rejection of Applicant's claims based on an omission of essential elements.

The Examiner additionally rejected claim 5 as being unclear. Applicant submits that the Examiner is incorrect. In this regard the Examiner has not pointed out how or why the terminology of claim 5 is unclear. Applicant respectfully submits that claim 5 is clear and in full accordance with the features of present invention as originally disclosed. This feature deals with the initialization of the authentication process between two devices. In particular, it relates to when e.g. a new memory device is inserted into a cell phone. In this regard, the Examiner's attention is respectfully directed to page 10, lines 14-18 and page 12, starting at line 9 in the present specification. Accordingly, Applicant respectfully traverses the Examiner's rejection of claim 5 under 35 U.S.C. 112 second paragraph.

The Examiner additionally rejected claim 14 for insufficient antecedent basis. By the present response, Applicant has amended claim 14 as well as the other claims to ensure adequate and proper antecedent basis for all the terms used and to ensure that the language is clear, consistent and properly descriptive of the present invention as well as in full compliance with English language grammar, syntax and idiom. Accordingly Applicant respectfully requests reconsideration and withdrawal of the rejection of any claim under 35 U.S.C. 112 second paragraph.

In the outstanding Official Action, claim 1-20 were rejected 35 U.S.C. 102 (b) as anticipated by RAITH (USPN 5,241,598). Applicant respectfully traverses the above rejection.

Applicant's invention is directed, *inter alia*, to a device authentication system in which a first device authenticates a second device. As recited in e.g. claim 1, the first device includes a transmission/reception section that transmits and receives information to/from the second device. A first information holding section holds first authentication information in a secure area and a decider makes a decision on authentication. The second device includes a transmission/reception section that transmits and receives information to/from the first device and a second information holding section that holds second authentication information. An information acquirer acquires third authentication information externally of the second device, the third authentication information being user identification information. An authentication information generator generates fourth authentication information from the second authentication information and the third authentication information, and outputs the fourth authentication information to the first device through the transmission/reception section. A decider makes a decision on conformity between the first authentication information and the fourth authentication information to authenticate the second device. When the first device does not hold the

first authentication information, a device that performs mutual authentication with the first device acquires the fourth authentication information from the second device, and set the first device for the first authentication information as an initial setting.

Claims directed to a device authentication method, to the first device, to the second device as well as to a computer readable medium that stores a program for having a computer perform authentication are also contained herein and are directed to various additional non-limiting aspects of the present invention. It is respectfully submitted that the combinations of features recited in each of Applicant's claims are not taught, disclosed or rendered obvious by RAITH as applied by the Examiner.

In particular, RAITH is directed to a rolling key resynchronization in cellular verification and validation systems. As interpreted by the Examiner, the first device is a base station while the second device is a mobile station. Further, as explained by the Examiner, the first authentication information is the random challenge number ("RAND"), the second authentication information is the mobile identification number (MIN), the third authentication information is the factory set electronic serial number (ESN) and RAITH generates a fourth authentication information/temporary encryption key based on the second and third authentication information. The Examiner made reference, in explaining the rejection, to column 15, line 57 through column 16, line 20.

However, Applicant respectfully traverses the above rejection and submits that the combination of features recited in Applicant's claims are not disclosed or anticipated by RAITH.

In particular, in setting forth the rejection (sentence bridging pages 4 and 5) the Examiner asserts that the information acquirer "acquires third authentication information/electronic serial number/ESN ... from the outside second device/mobile station". Applicant respectfully submits this is incorrect based on the explicit disclosure

of RAITH. It is respectfully submitted that the electronic serial number is not from externally of the mobile station but rather is internally contained within the mobile station and it is particularly a factory set serial number which uniquely identifies mobile station as clearly disclosed by RAITH at column 16, lines 8-10.

Accordingly, at least for this reason it is respectfully submitted that Applicant's claims are clearly patentable over RAITH.

It is a benefit and advantage of the present invention that authentication of e.g. a terminal is enabled without a secure field. In direct contrast, RAITH utilize a secret key that requires a secure field. In another words, an object of the present invention is to enable authentication of the terminal (or device) without a secure field.

In this regard, Applicant notes that according to the teaching of RAITH, column 16, line 4, the permanent key (A-KEY) which is a secret key is known only to the mobile station and the network and is preferably never transmitted over the air interface. Thus it is clear that the secret key must be stored in a secure location within the mobile station. This feature is a further distinguishing feature of the present invention over RAITH.

Moreover, Applicant notes that according to the Examiner's interpretation, the third authentication information is the factory set electronic serial number. It is respectfully submitted that this does not comprise "user authentication information" as recited in Applicant's claims. For this additional reason, it is respectfully submitted that Applicant's claims are clearly patentable over RAITH.

In the addition to the above noted distinctions, it is respectfully submitted that in the claimed combination, RAITH does not disclose that when the first device does not contain the first authentication information, a device that performs mutual authentication with the first device acquires the fourth authentication information from the second

device and sets the first device for the first authentication information as an initial setting.

This additional feature of Applicant invention (previously recited in claim 5), which is clearly disclosed in Applicants original specification, as previously noted, in the various claim combinations, is yet an additional distinguishing feature over the disclosure of RAITH.

Accordingly, for each of the above noted reasons and certainly for all the above noted reasons it is respectfully submitted that Applicant's claims are clearly patentable over the disclosure of RAITH. An action to such effect is respectfully requested in due course.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance and believe that he has now done so. Applicant has amended the claims to clarify the recitations thereof and to enhance the clarity and definiteness thereof. Applicant has discussed the disclosure of the reference upon which the Examiner relied and has pointed out the shortcomings thereof Applicant has discussed the recitations Applicant's claims and, with respect to such recitations, has pointed out deficiencies of the reference with respect to the claims. Accordingly, Applicant has provided a clear evidentiary basis supporting the patentability of all claims in the present application. Applicant respectfully requests an indication to such affect, in due course.


Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

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